

PEER-REVIEW REPORT

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Title: CO2-angiography for patients with peripheral arterial disease at risk of contrast-induced nephropathy

Reviewer's code: 02446717

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Associate Professor, Chief Doctor

Reviewer's country: China

Author's country: United States

Reviewer chosen by: Jia-Ping Yan

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Reviewer performed review: 2019-09-18 14:35

Review time: 5 Days and 23 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input checked="" type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input checked="" type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input checked="" type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The review aims to highlight the benefit effect of CO₂-angiography for patients with peripheral arterial disease (PAD) and critical limb ischemia (CLI) at risk of contrast-induced nephropathy. It demonstrated that combining CO₂-angiography with traditional iodine angiography has reduced the incidence of CIN in patients with PAD who have CLI by reducing the volumes of iodine. What's more, it provided a comprehensive review of the following topics: the morbidity of CIN, the risk factors of CIN, the current preventive strategies for CIN, the current technological advances in the delivery of CO₂, the misconception of CO₂-angiography, the complications and contraindications of the use of CO₂-angiography. Collectively, this review revealed the development of new technology overcomes some limitations of CO₂-angiography, including poor image quality, lack of safety, which limited use of CO₂-angiography, and advocated the promotion of CO₂-angiography in patients with PAD to decrease the risk of CIN. However, I believe it would be better if you take the following suggestions into consideration. 1. As far as I am concerned, the key words shown in this review, including peripheral artery disease (PAD), angiography, vascular medicine, chronic kidney disease and hypertension, somewhat lack of accuracy. For example, I didn't found any demonstrate about "hypertension" in this review. 2. This review lacks the analysis in the pathogenesis of CIN. It demonstrated the protective effect of hybrid angiography in patients with PAD at risk of CIN is associated with the reduction of iodine volumes. I wonder whether other pathogenesis of CIN also plays an important role in the prevention of CO₂-angiography in patients with PAD at risk of CIN, such as oxidative stress, inflammation, and vasoconstriction. Moreover, this review lacks the report about the association of iodine volumes and the incidence as well as the severity of CIN in patients with PAD, which would help directly illustrate the protect pathogenesis of CO₂-angiography in patients with PAD at risk of CIN. 3. Although the complications associated with the use of CO₂ are uncommon and are usually minor and



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transient, I think it would be better if you can demonstrated the associated preventive and therapeutic strategies for the complications and list a table similar to “contraindications of CO₂-angiography”. 4. This review unable to provide a comprehensive review about the limitation and advantages of currently preventive and therapeutic strategies including hydration, avoid the use of nephrotoxic medication, antioxidant for CIN, I think the comparison between CO₂-angiography and this existing preventive strategies in ameliorating the incidence and severity of CIN deserves further discuss.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
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- ☐ No

BPG Search:

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